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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,047	10/13/2005	Stephan Hueffer	264731US0PCT	6812
22850 7590 12/21/2006 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER KHAN, AMINA S	
			ART UNIT 1751	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/21/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/524,047

Applicant(s)

HUEFFER ET AL.

Examiner

Amina Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 and 28-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 and 28-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This office action is in response to applicant's amendments filed on September 4, 2006.
2. Claims 14-26 and 28-37 are pending. Claims 1-13 and 27 have been cancelled. Claims 14,17,22,25 and 26 have been amended. Claims 30-37 are new.
3. All prior rejections are withdrawn.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14-24 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US 3,719,514) in view of Rowland (US 2,992,936).

Taylor teaches paper coating compositions comprising glutaraldehyde (column 4, line 29), urea (column 4, line 49), kaolin clay (column 4, line 57) and pigments (column 5, line 59). Taylor further teaches that paper coated with these compositions has improved wet-rub resistance and rheological properties (column 1, lines 66-68).

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Taylor et al. does not teach all the instantly claimed embodiments in a single example and is silent as to the size of the kaolin clay.

Rowland, in the analogous art of paper coating, teaches clay compositions comprising kaolin clay with the size distribution as follows:

99-100% by wt. less than 5 microns equivalent spherical diameter

98-100% by wt. less than 4 microns equivalent spherical diameter

88-100% by wt. less than 1.7 microns equivalent spherical diameter

85-97% by wt. less than 1.5 microns equivalent spherical diameter

70-84% by wt. less than 1.0 micron equivalent spherical diameter

25-37% by wt. less than 0.5 micron equivalent spherical diameter

10-15% by wt. less than 0.3 micron equivalent spherical diameter

(column 3, lines 35-60).

Rowland further teaches that paper coated with these compositions have improved gloss, brightness and opacity properties (column 1, lines 5-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions taught by Taylor by adding the kaolin clay particles taught by Rowland because Rowland teaches this size distribution of particles produce paper with improved gloss, brightness and opacity properties. Furthermore, Taylor invites the inclusion of kaolin clay particles. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

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Even though Taylor and Rowland do not teach a tanning agent uses of their compositions, the two different intended uses are not distinguishable in terms of the composition, see *In re Thuau*, 57 USPQ 324; *Ex parte Douros*, 163 USPQ 667; and *In re Craige*, 89 USPQ 393.

6. Claims 14,16-26,28-33,36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorah et al. (US 6,759,463).

Lorah et al. teach leather treating compositions (column 26, lines 50-55; column 27, line 45) comprising bimodal distributions of clay particles (column 24, lines 1-10) wherein the particle sizes are preferable 100 nm to 300 nm (column 55, lines 55-60). Lorah et al. further teach that the clay may be smectite, phyllosilicate, montmorillonite, hectorite, and kaolinite (column 11, lines 5-15). Lorah et al. further teach that the compositions comprise organic polymers (column 8, lines 5-26), pigments (column 26, lines 60-65), organic amides (column 8, line 22) and alcohols (column 19, lines 6-7).

Lorah et al. do not teach all the instantly claimed embodiments in a single example and do not teach tanning agents.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of

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unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

Even though Lorah et al. do not teach a tanning agent uses of their compositions, the two different intended uses are not distinguishable in terms of the composition, see *In re Thuau*, 57 USPQ 324; *Ex parte Douros*, 163 USPQ 667; and *In re Craige*, 89 USPQ 393.

7. Claims 14,16-26 and 28-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al. (US 2002/0192366).

Cramer et al. teach leather treating compositions (page 8, paragraph 0069) comprising clay particles wherein the particle sizes are 2 nm to less than about 150 nm (page 5, paragraph 0041). Cramer et al. further teach that the clay may be smectite, montmorillonite, hectorite, muscovite, bentonite and kaolinite (page 6, paragraph 0043-0044). Cramer et al. further teach that the compositions comprise organic polymers (page 10, paragraph 0085-0091), colorants and dyes (page 12, paragraph 0111), and alcohols (page 9, paragraph 0084). Cramer et al. further teach that hectorite with

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particle sizes of 25-100 nm may be used (page 6, paragraph 0050). Cramer et al. further teach that in some cases it may advantageous to have particles where one dimension is equal to or greater than 0.5 microns (page 7, paragraph 0051).

Cramer et al. do not teach all the instantly claimed embodiments in a single example, do not teach tanning agents and are silent as to bimodal distributions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

Even though Cramer et al. do not teach a tanning agent uses of their compositions, the two different intended uses are not distinguishable in terms of the

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composition, see *In re Thuau*, 57 USPQ 324; *Ex parte Douros*, 163 USPQ 667; and *In re Craige*, 89 USPQ 393.

Regarding the limitation of bimodal distribution, it would have been obvious to one of ordinary skill in the art to arrive at that teaching from Cramer et al. because Cramer et al. teach hectorite with particle sizes of 25-100 nm may be used (page 6, paragraph 0050) and further teach that in some cases it may advantageous to have particles where one dimension is equal to or greater than 0.5 microns (page 7, paragraph 0051).

8. Claims 14,16-26 and 28-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al. (US 2002/0192366) in view of Lorah et al. (US 6,759,463).

Cramer et al. is relied upon as set forth above. Cramer et al. teach leather treating compositions (page 8, paragraph 0069) comprising clay particles wherein the particle sizes are 2 nm to less than about 200 nm (page 5, paragraph 0041). Cramer et al. further teach that the clay may be smectite, montmorillonite, hectorite, muscovite, bentonite and kaolinite (page 6, paragraph 0043-0044).

Cramer et al. is silent as to particles with bimodal distributions.

Lorah et al. is relied upon as set forth above. Lorah et al. teach leather treating compositions (column 26, lines 50-55; column 27, line 45) comprising bimodal distributions of clay particles (column 24, lines 1-10) wherein the particle sizes are preferable 100 nm to 300 nm (column 55, lines 55-60). Lorah et al. further teach that

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the clay may be smectite, phyllosilicate, montmorillonite, hectorite, and kaolinite (column 11, lines 5-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a bimodal distribution of muscovite particles as taught by Lorah et al. into the compositions taught by Cramer et al. because Lorah et al. teaches the added benefit of increased tensile strength and Cramer et al. teach the equivalence of treating leather with muscovite, smectite, montmorillonite, hectorite, and kaolinite. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Amina Khan, PhD
December 18, 2006


LORNA M. DOUYON
PRIMARY EXAMINER